

**REMARKS****1. Amendments to the Claims**

Claims 2, 4-10, and 14-15 are pending. Claims 2, 6, and 8-10 are herein amended. New claim 15 is added.

Support for the amendments to claim 2 is found in the following paragraphs:

- Affirmative steps of the present invention; [0006] and [0016]
- Synthesis of nucleic acids without protecting the base moiety [0017]
- “alcohol-type compound” clarification; [0008] – [0010]
- Clarification that the activator is a mixture of the alcohol-type compound and the acid catalyst; [0008] – [0010] and
- Clarification of the scope of “nucleic acids”. [0013] and [0016]

The amendment to claim 6 is to change the dependency. The amendment to claims 8, 9, and 10 are to clarify the claims.

New claim 15 is supported by paragraphs [0006], [0008] – [0010], [0016], and [0017].

No new matter has been added.

**2. Objection to the Abstract**

The Examiner objects to the Abstract, stating that “the general nature of the compound or composition should be given as well as its use.” The Examiner states that complete revision of the Abstract is required.

Applicants herein attach a substitute abstract in a clean and marked up copy.

**3. Objection to the Specification**

The Examiner states that the disclosure fails to include a cross-reference paragraph and requests that Applicants include it. Applicants submit that a proper claim for priority has been made

via the Application Data Sheet filed on August 30, 2006. Applicants also herein amend the Specification to incorporate a cross-referencing paragraph. Applicants request that the Examiner's objection be withdrawn.

**4. Rejections Under 35 U.S.C. § 101**

The Examiner rejects claims 2, 9, 10, and 14 under 35 U.S.C. § 101 as claiming a use without setting forth any steps involved in the process. (Office Action, page 3). Applicants have amended claim 2 to incorporate active steps, thereby overcoming the Examiner's rejection. Applicants request that the rejection be withdrawn.

**5. Rejections Under 35 U.S.C. § 112, First Paragraph, Enablement**

The Examiner rejects claims 2-10 and 14 under 35 U.S.C. § 112, first paragraph stating that the specification "while being enabled for the synthesis of oligonucleotides via phosphoramidite intermediates wherein the monomeric intermediates have no base amino group protection, does not reasonably provide enablement for synthesis wherein protection is present." (Office Action, page 3). The Examiner states that the term "alcohol-type" compound is too broad. (Office Action, page 3). Applicants have amended the claims to stipulate that there is no base group protection and clarified the "alcohol-type" compound. Applicants request that the rejection be withdrawn.

**6. Rejections Under 35 U.S.C. § 112, Second Paragraph, Indefiniteness**

The Examiner rejects claims 2-4, 7, 9 and 14 under 35 U.S.C. § 112 as indefinite. (Office Action, pages 4-5).

a. Claim 2

The Examiner indicates that “alcohol-type compound”, “acid catalyst of an activator” are indefinite. Applicants have specified the type of “alcohol-type compound” in claim 2. Applicants have also amended the claim to clarify that the activator is a mixture of the alcohol-type compound and the acid catalyst. Applicants request that the rejection be withdrawn.

b. Claims 3, 4 and 7

The Examiner indicates that the terms “HOBT-derivative” and “phenol analogue” are indefinite. Applicants note that claim 3 has been cancelled, rendering the rejection as to claim 3 moot. With regard to claims 4 and 7, Applicants submit that the Specification is clear as to which compounds are encompassed within the terms “HOBT-derivative” and “phenol analogue” as shown in paragraphs [0008] and [0009]. Accordingly, Applicants request that the Examiner withdraw the rejection.

c. Claim 9

The Examiner indicates that the use of the term “wherein a mixture comprising an equal amount of . . . is used as the activator” is inconsistent with the previous usage of the term. Claim 9 is now consistent with previous claims. Applicants request that the rejection be withdrawn.

**7. Rejections Under 35 U.S.C. § 102**

a. Sekine et al.

The Examiner rejects claims 2-10 and 14 under 35 U.S.C. § 102(a) as anticipated by Sekine et al. (Office Action, page 5). Applicants submit that the Sekine reference published on April 2,

2004. However, the Japanese priority application was filed on March 1, 2004, before the Sekine application published. Applicants herein provide a certified translation of their priority document to fully establish their priority claim. Accordingly, Applicants submit that the anticipation rejection in view of Sekine has been overcome. Applicants request that the rejection be withdrawn.

**b. Ohkubo et al.**

The Examiner rejects claims 2-10 and 14 under 35 U.S.C. § 102(a) as anticipated by Ohkubo et al. (Office Action, page 6). Applicants respectfully traverse because Ohkubo does not disclose every element of the claimed invention.

Specifically, Applicants submit that Ohkubo does not disclose an activator which is mixture of an alcohol-type compound and a phenol compound. Applicants point to Example 3, where a 20-mer molecule was synthesized without a protecting moiety by using a mixture of a particular alcohol-type compound and an acid catalyst. However, in Ohkubo only a 12-mer ( $d[CAGT]_3$ ) was synthesized (figure 3). Accordingly, Applicants submit that Ohkubo does not anticipate the present invention because it does not disclose all of the elements of claim 2 to achieve a different result. As claims 4-10 and 14 depend on claim 2, they are also not anticipated. Applicants request that the rejection be withdrawn.

**c. Dabkowski et al.**

The Examiner rejects claims 2-10 and 14 under 35 U.S.C. § 102(a) as anticipated by Dabkowski et al. (Office Action, page 6).

The Examiner has taken the position that even though the reference discloses that there is no need for an activator when 2,4-dinitrophenol is present in a phosphoramidite-type oligonucleotide synthesis coupling process, the reference nonetheless anticipates the claimed invention. Applicants respectfully traverse.

First, Dabkowski does not teach a mixture of an alcohol-type compound and an acid catalyst are used as the activator. Second, Dabkowski only teaches the creation of a dimer, not the 20-mer of the present method. What would be expected based on the disclosure of Dabkowski is that a method lacking the activator would be effective to make a dimer, not to make a 20-mer as exemplified in the present invention.

Accordingly, Applicants submit that because Dabkowski does not teach a mixture of an alcohol-type compound and an acid catalyst used as the activator, it does not anticipate the present inventive method. Applicants request that the rejection be withdrawn.

#### **8. Response to the Examiner's further Comments**

The Examiner states that “[i]n considering patentability of the claims under 35 U.S.C. § 103(a) . . . .” (Office Action, page 6). Applicants note that the Examiner has not made an obviousness rejection in the present application and presume that this paragraph is extraneous.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), Applicants petition for an extension of one (1) month to August 3, 2009 for the period in which to file a response to the Office Action dated April 3, 2009. The Commissioner is hereby authorized to charge Deposit Account No: 02-2448 in the amount of \$130 for the one (1) month extension of time fee.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

AUG 3 2009

Respectfully submitted,

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Attachments: Substitute Abstract  
Certified Translation of Priority Document